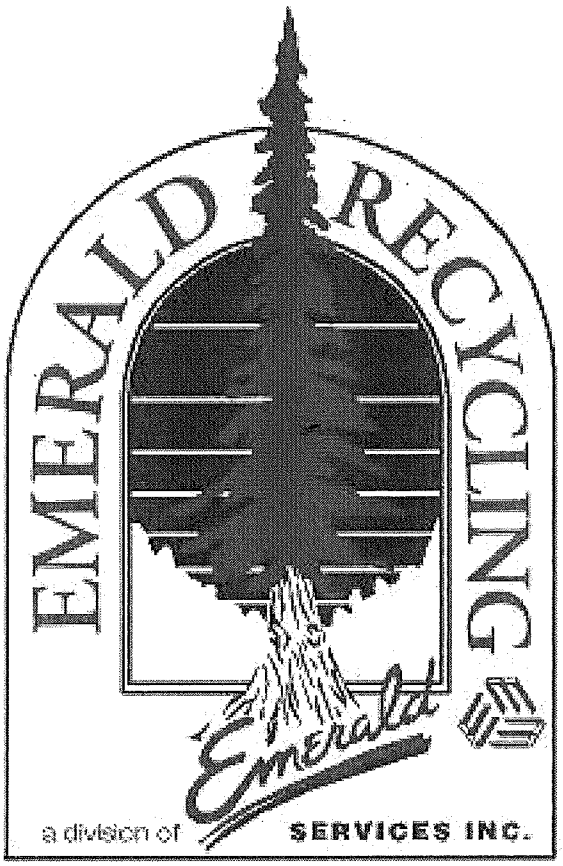

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CLOSURE PLAN AND FINANCIAL ASSURANCE

WAC 173-303-806(4)(a)(xiii), (xv), (xvii), 610, 620, 120(3)

Emerald Recycling
1825 Alexander Ave.
Tacoma WA 98421
WAD 981769110

November 2009

1.0 Introduction to Closure Plan

WAC 173-303-806(a)(xiii), 610(3), (12), 120(3)

This Closure Plan (Plan) addresses the steps Emerald Recycling will undertake to obtain clean closure of its recycling and dangerous waste storage facility located at 1825 Alexander Ave., Tacoma, Washington, 98421. This facility is owned and operated by Emerald Recycling (Emerald), whose parent company is Emerald Services, Inc. Solvent and antifreeze recycling are conducted at the site per WAC 173-303-120, in addition to dangerous waste storage to support recycling operations per WAC 173-303-280. For these operations, a Closure Plan, Closure Cost Estimate, and Financial Assurance are required per WAC 173-303-120 and WAC 173-303-610. The Site ID number for this Emerald facility is WAD981769110.

1.1 Facility Contact Information

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1.2 Facility Description

The following describes the facility and facility operations. All tanks, containment areas, and equipment subject to the closure plan requirements are identified and described. The maximum amount of waste inventory is also included.

1.3 Facility History, Function, Location, and Layout

The site of the Emerald facility was originally a wetland. Beginning in 1967, owners of the property began filling the wetland with a variety of solids. Other than the filling process, there were no operations at the site until SolPro purchased the land in 1986. Sol Pro initially operated a solvent recycling facility under a Part A Permit, then obtained its Part B Permit in 1999. Shortly thereafter, in May of 2000, Emerald Services, Inc. purchased the facility from SolPro. Since that time, Emerald has made several site improvements, including paving of the site areas not designated for dangerous waste management, improvement to the stormwater management system, and addition of a glycol recycling operation.

The Emerald facility is located between the Hylebos and Blair waterways in an area typically known as the Commencement Bay Nearshore Tide Flats. This area is zoned for heavy industrial use. Properties in the vicinity of the Emerald facility typically conform to the heavy industrial classification. The Emerald site occupies approximately 2.5 acres.

Emerald utilizes the site as an antifreeze and solvent recycling facility, as well as a dangerous waste storage facility. Emerald's recycling processes produce recycled solvent and recycled glycol that are marketed through the northwest and Midwest regions of the United States. Solvents recycled are organic in nature and include standard blends for parts washing and paint gun washing, as well as customer-specific blends. The glycol recycling operation is similar to the solvent recycling operation in that both standard blends and customer specific blends are produced. In 2006, Emerald recycled over one million gallons of antifreeze and solvent.

The dangerous waste management areas subject to this Closure Plan and Closure Cost estimate are designated on Figure I-1, and include all areas where recycling operations and dangerous waste storage occur.

The facility is situated such that the main transportation in and out of the facility occurs at the south gate (Gate G-1). Trucks enter and depart through this gate, check-in at the office, then stage their truck for off-loading. Occasionally, trucks will enter through the north gate (Gate G-2) for bulk loading or off-loading. There is also a gate located on the rail spur at the north end of the facility, which is used solely for movement of rail cars

(Gate G-3). The main operational areas are located in the northern half of the facility and include the dangerous waste container storage area, the glycol processing and storage area, Production Pads 1, 2, 3, and 4, Process Areas 1 and 2, Tank Areas 1, 2, and 3, Load/Unload Areas #1 and #2, the Loading Dock, the Railcar Building containment, and the Railcar Supplemental containment. There are product storage areas located in the vicinity of the main operational areas. Locating product storage near the operational areas allows for easy access to product storage following recycling of wastes. The stormwater management areas surround the dangerous waste management areas and encompass a majority of the south end of the facility. The south end of the facility is where the 90,000 gallons stormwater vault and stormwater bioswale are located. See Figure I-2 for a scale diagram of the facility operational areas.

1.4 Products and Production Processes

As indicated above, the Emerald facility recycles glycol (waste antifreeze) and solvent, and also stores dangerous waste to support recycling activities. The glycol is recycled to standard product specifications, such as 50/50 blend, or to a customer-specific standard. Solvent recycling is managed in a similar way. Emerald has several standard products that are marketed throughout the Northwest (Region 10) and the Midwest. These include automotive parts washer solvent, paint gun wash solvent, and several others. Emerald also has customers who request specific solvent blends custom-designed for their operations. Waste streams with an acceptable Btu value that are not suitable for recycling are consolidated onsite prior to off-site shipment by rail for energy recovery.

All recycling is conducted using distillation technology. This technology allows Emerald to fraction off the desirable (clean) solvent or glycol. Clean solvent or glycol is collected off the recycling units, then packaged for sale. Non-reusable solvents and tank bottoms are accumulated on-site as dangerous waste prior to shipment and fuel blending off-site.

Dangerous waste stored at the Emerald facility consists of waste streams that are compatible with the recyclable waste streams, but not suitable for recycling. These waste streams must have, at a minimum, sufficient Btu for a burner to recover energy from the waste stream. The specific Btu varies depending on the burner who will be accepting the waste stream. The minimum Btu value must be met at the point of waste stream generation in order to meet the requirements for boilers and industrial furnaces.

Waste streams that are pumpable are pumped from bulk and non-bulk containers to railcars for transportation to a permitted burner for energy recovery. Non-pumpable waste streams are generally stored until a full container load is accumulated. These are then transported off-site by truck to a permitted burner for energy recovery or other permitted TSDF for further fuel blend processing. For non-pumpable waste streams,

Emerald also has the capability of creating pumpable waste streams by using the cascade shredder and dispersion system. The cascade shredder can be used to reduce the size of solids in a waste stream. From the cascade shredder, the shredded waste stream is transferred to the dispersion system where it is blended with other low viscosity liquids to generate a pumpable waste stream.

Prior to any processing or storage, all waste streams are checked in to ensure they can be managed at the Emerald facility. Loads of waste glycol are checked and also tested for glycol content prior to off-loading. All dangerous waste streams undergo a check-in process as required under the facility's Waste Analysis Plan (Section 3 of this Part B Permit Application). This check-in process is designed to ensure that waste streams managed at the Emerald facility are compatible with other waste streams managed onsite, and also that the dangerous waste properties of the waste stream are within the limitations of the Emerald Part B Permit.

1.5 Dangerous Waste and Recycling Units

Emerald has three recycling units and one fuel blending unit. These are the glycol distillation unit, the thin film evaporator unit (also known as the LUWA), and the high boiler distillation unit (also known as the SIVA). Emerald also utilizes the cascade shredder and dispersion system as needed for processing of waste streams with high solids content that are not suitable for recycling.

Waste streams destined for management in each of these units are typically stored in on-site tanks, or in containers in the Dangerous Waste Container Area, Production Pad 2, Production Pad 3, or Production Pad 4. As described below in Section 1.6, Unit Description, each of the units encompasses a system of pipes, equipment, tanks and containment, all of which are regulated for purposes of this Closure Plan and Closure Cost Estimate.

1.6 Unit Description

Emerald units subject to this Closure Plan and Closure Cost Estimate include all permitted dangerous waste storage areas, all recycling units and associated ancillary piping and equipment, and the fuel blending unit and associated ancillary piping and equipment. Permitted dangerous waste storage tanks utilized to store waste streams prior to recycling or processing are also subject to this Closure Plan and Closure Cost Estimate. Tables I-1, I-2, I-3, I-4, I-5, and I-6 below provide specific information regarding which tanks, equipment, and containment areas are subject to this Closure Plan and Closure Cost Estimate. The following provides a brief description of each of the processes conducted by Emerald.

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Thin Film Evaporator - Solvent Recycling

The thin film evaporator system (also known as the LUWA) is a distillation process specifically designed for solvents with a boiling point range of up to 400°F. The system consists of an agitated thin film evaporator with ancillary pumps, piping, a vacuum vessel, vacuum pump, feed tank, condenser, receiving tanks, and emission control equipment. The tanks typically utilized in this system are located in Tank Area 1 (Tank D-100,) and Process Area 1 (Tank D-101) (Table I-1). Subject to requirements of the dangerous waste permit, other tanks may be utilized depending on the tanks available for dangerous waste storage and the processing schedule (see Table I-6). Tanks D-310 (formerly C-100), D-311 (formerly C-801), and D-315 (formerly C-802) are proposed for future use under this Permit and will be brought into the Closure Plan through a Permit modification. The thin film evaporator process equipment is located in Process Area 1. Dedicated piping and tanks are also used for transfer and storage of product out of this system. However, they are not subject to the requirements of this Closure Plan and Closure Cost Estimate.

For recycling in the thin film evaporator system, dangerous waste suitable for recycling (feed stock) is pumped from containers or tanker trucks into a dangerous waste permitted feed tank. While in operation, the thin film evaporator receives feed stock from a feed tank on a continuous basis through dedicated piping. The feed stock is vacuum distilled using non-contact hot oil as a heat transfer media. The distilled feed stock is condensed, transferred to product storage tanks, and subsequently packaged for re-sale. Still bottoms generated from the process are recovered and transferred to the fuel blending system for further processing and subsequent transportation to and disposal at a permitted third party disposal facility.

High Boiler Distillation – Solvent Recycling

The high boiler distillation unit (SIVA) is designed to distill solvents with a boiling point range of 300°F to 500°F. The unit utilizes a "pot still" equipped with an advanced electronic materials technology and support system. The process equipment and feed tanks typically used for this system are located in Process Area 2 (D-302 (formerly D-800)) (Table I-2). Tanks D-312 (formerly C-102) and D-314 (formerly C-104) are proposed for future use under this Permit and will be brought into the Closure Plan through a Permit modification. Subject to requirements of the dangerous waste permit, other tanks may be utilized depending on the tanks available for dangerous waste storage and the processing schedule (see Table I-6 for the list of current multi-use tanks).

The high boiler distillation unit consists of a feed tank, ancillary pumps, piping, condensers, product tanks, and emission control equipment. Dangerous waste suitable for recycling (feed stock) is fed to the high boiler distillation unit on a batch basis from the feed tank. Feed stock may also be transferred directly to the high boiler distillation unit from containers if the quality of the waste stream is suitable.

The feed stock is vacuum distilled using non-contact hot oil as a heat transfer media. The distilled feed stock is condensed, then transferred to containers or tanks for storage prior to re-sale. Still bottoms generated from the process are transferred to the fuel blending operation for further processing and subsequent transportation to and disposal at a permitted third party disposal facility.

Glycol Distillation

The glycol distillation unit is designed to distill glycol-based coolants with a boiling point of approximately 400°F. The glycol distillation unit utilizes process tanks, filters, an evaporator, vacuum distillation tower, cooling tower, ancillary pumps and piping, and condensers.

The system consists of tank(s) (D-210, D-211 and D-212), a filter and vacuum distillation unit, and supporting equipment designed to process used antifreeze and glycol-based coolants to a maximum of 98% glycol (Table I-3). Normal product ranges for concentrations of glycol are between 50% and 98%. The glycol distillation unit consists of multiple tanks and filters for emulsified oil removal, a forced circulation evaporator and distillation tower, packaged cooling tower for condensing and product cooling, and variable rate feed and product pumps. All glycol distillation activities are conducted in the glycol processing area.

Waste streams generated in the glycol distillation unit include equipment washout water and scale. A portion of these waste streams have adequate Btu for fuel blending and are transferred to the fuel blending system. The remainder is transferred to containers prior to off-site shipment for management at a third-party permitted disposal facility.

Fuel Blending

The processing equipment used for fuel blending includes tanks (D-502, RT -500, and MT-500), other components of the dispersion system, the cascade shredder, and bulk liquid blending (Table I-4). Each of these is designed to process waste streams of various viscosities.

The dispersion system is designed to process solid and viscous materials that are suitable as a blended fuel (sufficient Btu for energy recovery). The cascade shredder is used to shred solids in preparation for the dispersion system or for container consolidation. The bulk liquid mixing system is designed to blend low viscosity wastes using a pump designed specifically for mixing. The dispersion system is located on Production Pad 1, the cascade shredder and bulk liquid blending equipment is located in Process Area 2.

The dispersion system includes a hopper, chute, mix tank, blender, and associated ancillary equipment such as pumps, piping, and filters. Solid and viscous waste streams are introduced into the mix tank through the hopper and chute located above the mix tank. Other low viscosity liquid waste streams are introduced and thoroughly blended until they become a homogeneous fuel. The blended fuel is then transferred to a railroad tank car. Emerald may also transfer the blended fuel to a dangerous waste storage tank or directly to a tanker truck. The blended fuel is ultimately transported off-site for disposal at a permitted third-party disposal facility for use as a fuel.

Waste streams with high solids content or contained in smaller containers, such as lab packs, may be shredded in the cascade shredder. The cascade shredder consists of a hopper, shredder, and auger. Waste streams with high solids content or that are contained in smaller containers are shredded to obtain a uniform waste stream prior to transfer to the dispersion unit or consolidated into containers. When the shredded waste stream is introduced into the dispersion unit, it is blended with other viscous waste streams. Waste streams with high solids content may also be stored in containers in the permitted dangerous waste container storage areas for containerized shipments off-site, rather than undergoing processing the cascade shredder and dispersion unit.

Waste streams brought to the Emerald facility in bulk form are processed through the bulk liquid blending system. This system consists of filters, blend pumps, and associated ancillary equipment including piping. Bulk waste streams are pumped from the truck through a filter and then blended using the pump. The blended waste stream is then pumped directly to railcars or to storage tanks prior to transportation off-site to a permitted, third party disposal facility.

Future Storage

Emerald plans to expand its tank storage capabilities in the future. Tanks D-310 (formerly C-100), D-311 (formerly C-801), D-312 (formerly C-102), D-314 (formerly C-104), and D-315 (formerly C-802) will be used for bulk storage of dangerous waste, supporting the recycling processes. Upon approval of these tanks for storage by the Washington State Department of Ecology, closure costs to include management and

disposal of the associated waste streams and equipment will be incorporated into this Closure Plan and Closure Cost Estimate as appropriate.

Table I-1 - Tanks and Equipment Subject to Closure
Thin Film Evaporator

Primary Use	Unit Type	Unit Number	Diameter (in feet)	Height (in feet)	Total Capacity (gallons)	Construction
Thin Film Evaporator – Solvent Recycling	Tanks	D-100	8.9	7.7	3,581	Carbon Steel
		D-101	3.9	8.5	755	Carbon Steel
	Equipment	Thin Film Evaporator T-100				
		Diaphragm pumps P-100, P-101, and P-103				
		Condenser/Heat Exchangers E-100 and E-600				
		Liquid Ring Supply Vessel Pump P-600				
		Vacuum Pump VP-600				

Table I-2 – Tank and Equipment Subject to Closure
High Boiler Distillation

Primary Use	Unit Type	Unit Number
High Boiler Distillation – Solvent Recycling	Equipment	High Boiler Distiller T-800
		Heat Exchangers E-800 and E-801
		Centrifugal Pump P-800
		Vacuum Pump VP-800

Table I-3 – Tanks and Equipment Subject to Closure
Glycol Distillation

Primary Use	Unit Type	Unit Number	Diameter (feet)	Height (feet)	Total Capacity (gallons)	Construction
Glycol Distillation	Tanks	D-210	11.5	12.8	10,000	Carbon Steel
		D-211	11.5	14.0	11,000	Carbon Steel
		D-212	7.5	14.5	4,500	Carbon Steel
	Equipment	Evaporators T-1 and T-2				
		Carbon Adsorbers V-3 and V-4				
		Heat Exchangers E-1, E-2, E-3, E-4, E-5				
		Distillation Towers T-3, E-6				
		Pumps P-210, P-214, P-215, P-216, P-217, P-218, P-219, P-222				
		Vacuum receiver V-1				
		Vacuum pump C-1				
		Cooling tower CT-1				

Table I-4 – Tanks and Equipment Subject to Closure
Fuel Blending

Primary Use	Unit Type	Unit Number	Diameter (feet)	Height (feet)	Total Capacity (gallons)	Construction
Fuel Blending	Tanks	D-502	10.5	11	9,230	Carbon Steel
		RT-500	5	7	1,100	Carbon Steel
		MT-500	4.3	3	300	Carbon Steel
	Equipment	Skid Vac S-80				
		Hoppers H-500 and H-501				
		Chutes CH-500 and CH-501				
		Mixer M-500				
		Cascade Shredder S-500				
		Filters F-500 and F-501				
		Blend Pump P-500				
		Pumps P-501, P-502, P-503, P-504				
		Slide Gate SG-500				

Table I-5
Containment Areas Subject to Closure

Description of Unit	Construction
Dangerous Waste Container Storage Area	Concrete with impervious coating (see Exhibit D-2 of Part B Permit Application for concrete specifications for containment areas, and Exhibit D-4 for coating information).
Production Pad 1	
Production Pad 2	
Production Pad 3	
Production Pad 4	
Process Area 1	
Process Area 2	
Tank Area 1	
Tank Area 2	
Tank Area 3	
Load/Unload Areas #1 and #2	
Loading Dock	
Railcar Building Containment	
Railcar Supplemental Containment	
Glycol Processing Area	Concrete with impervious coating system (see Exhibit D-4 of Part B Permit Application for coating information and Exhibit D-10 for Glycol System structural design information).

Table I-6
Piping and Multi-Use Tanks Subject to Closure

Primary Use	Unit Type	Unit Number	Diameter	Height/Length (feet)	Total Capacity (gallons)	Construction
Multi-Use	Tanks	D-300[a]	10'	16	10,000	Carbon Steel
		D-301[b]	10'	16	10,000	Carbon Steel
		D-302[c]	7.7'	18	6,250	Stainless Steel
	Piping	n/a	1"	55	2.2	
		n/a	1.5"	13	1.4	
		n/a	2"	262	44.5	
		n/a	3"	596	226.5	
		n/a	4"	50	33.0	

[a] Tank previously identified as D-500
[b] Tank previously identified as D-501
[c] Tank previously identified as D-800

1.6.1 Maximum Waste Inventory

WAC 173-303-610(3)(a)(iii)

The maximum amount of dangerous waste in containers and tanks that may be on-site at any one time with the currently permitted dangerous waste tanks and container storage is 107,526 gallons. This volume includes 66,716 gallons for all current dangerous waste storage tanks, and the permitted volume of 40,810 gallons for containerized dangerous waste storage. Product storage tanks and industrial wastewater treatment units and tanks are not included. Specific tank volumes for tanks subject to closure are provided in Tables I-1 thru I-4, and Table I-6, above.

2.0 Closure Performance Standard

WAC 173-303-610(2)

The intent of this plan is to ensure Emerald has a plan to obtain clean closure as required in WAC 173-303-610(2)(a) in that it describes how Emerald will:

- Minimize the need for further maintenance.
- Control, minimize, or eliminate to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, ground water, or the atmosphere
- Return the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

- Remove all waste and waste residues and properly dispose of them off-site
- Decontaminate all tanks, piping, and other equipment that make up the dangerous waste management systems to achieve the "clean debris surface" decontamination performance standard.
- Decontaminate the concrete secondary containment systems by meeting the "clean debris surface" decontamination performance standard.
- Perform soil sampling and analysis to ensure soils beneath all dangerous waste management units meet clean closure standards in WAC 173-303-610(2)(b)(i).

2.1 Constituents of Concern

Specific constituents of concern will be identified in the Sampling and Analysis Plan submitted upon facility Closure. The basis for the identification of constituents of concern will be waste acceptance records. At a minimum, and for purposes of this Closure Plan and Cost Estimate, based on expected waste receipts Emerald will analyze for glycol (ASTM D-2982) and metals (SW-846 Methods 6010) in areas that managed spent antifreeze, and volatiles (8260), semi-volatiles (SW-846 Methods 8270), and metals (SW-846 Methods 6010) in all areas managing solvents for recycling and high Btu waste streams. TPH analysis (NWTPH) will be performed on samples collected from the northeast perimeters of the Glycol Recycling and Dangerous Waste Container areas, and at a frequency of every fifth random sample collected as identified in Table I-8. Additional constituents of concern will be identified in the Sampling and Analysis Plan submitted to Ecology upon notification of intent to close at least 45 days prior to beginning closure. Based on previous waste stream receipt history, along with anticipated changes in operations, Table I-7 below lists the constituents of concern for wastes that Emerald expects to receive throughout the duration of the Permit. See Appendix II, Table of Possible Constituents of Concern, for information regarding additional waste codes Emerald is permitted to accept and constituents of concern that are associated with those codes.

Table I-7
Constituents of Concern

Waste Category	Waste Code	Constituent of Concern
Characteristic Waste	D001	Ignitability
	D002	pH/Corrosivity
	D004	Arsenic
	D005	Barium
	D006	Cadmium
	D007	Chromium
	D008	Lead

Waste Category	Waste Code	Constituent of Concern
	D009	Mercury
	D010	Selenium
	D011	Silver
	D018	Benzene
	D019	Carbon tetrachloride
	D024	m-cresol
	D025	p-cresol
	D026	Cresols (total)
	D028	1,2-dichloroethane
	D035	Methyl ethyl ketone
	D038	Pyridine
	D039	Tetrachloroethylene
	D040	Trichloroethylene
Washington State Only Dangerous Waste	WT01	Toxicity
	WT02	Toxicity
	WP01	Halogenated organic compounds
	WP02	Halogenated organic compounds
Listed Waste	F001	Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride
	F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-Dichlorobenzene, Trichlorofluoromethane, 1,1,2-Trichloroethane
	F003	Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, methanol
	F004	Cresols/cresylic acid, nitrobenzene
	F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutyl alcohol, pyridine, 2-nitropropane
Commercial Chemicals	U002	Acetone
	U004	Acetophenone
	U080	Methylene chloride
	U154	Methanol
	U159	Methyl Ethyl Ketone

Waste Category	Waste Code	Constituent of Concern
	U210	Tetrachloroethylene
	U220	Toluene
	U239	Xylenes (mixed isomers)

2.2 Clean Closure Levels

All dangerous waste, waste residues, equipment, liners, soils, or other media or materials contaminated with dangerous waste or waste residue will be removed or decontaminated.

In accordance with WAC 173-303-610(2)(b)(i), for soils, groundwater, surface water, and air, the clean closure levels will be the numeric clean-up levels calculated using unrestricted use exposure assumptions according to the Model Toxics Control Act (MTCA) Cleanup Regulation (WAC 173-303-340) that is current at the time of closure. These will be numeric clean-up levels calculated according to MTCA Method B, although MTCA Method A may be used as appropriate.

2.3 Decontamination of Equipment and Concrete

For tanks and process equipment, clean closure is achieved when surfaces meet the clean debris standard. For decontamination of concrete bases, clean closure is achieved when at least 0.6 centimeter of the surface layer has been removed and concrete surfaces have met the clean debris surface standard.

2.4 Contingencies for Concrete Structures

For concrete structures, if a clean debris surface is not achieved after removing the first 0.6 centimeter of the surface layer, then an additional amount of surface concrete will be removed to achieve a clean debris surface, or the concrete will be removed and disposed of as dangerous waste.

Consistent with regulations and guidance at the time of closure, Emerald may chose to propose an alternative method to decontaminate concrete (e.g., steam cleaning followed by an evaluation criteria to confirm that decontamination was successful). This change would be made using a permit modification. For cost estimating in this current closure plan, Emerald assumes they will achieve the clean debris surface standard by removal of 0.6 centimeter of concrete.

2.5 Soil Sampling

Soil sampling will be conducted to characterize the aerial and vertical extent of possible contamination at and/or released from the closing unit(s) and to confirm the effectiveness of closure activities. Knowledge of past management practices at Emerald will help determine the most appropriate amount and type of sampling.

3.0 Closure Activities

WAC 173-303-610(3), (5), (6), (12)

This section addresses activities that will be completed during closure of the recycling and fuel blending units and the associated storage areas. The following activities are described:

- Removal of waste and waste residues
- System and containment inspection prior to decontamination
- Decontamination of the system and containment areas
- Identifying and managing contaminated environmental media
- Confirming clean closure
- Sampling and analysis plans and constituents analyzed
- Role of the independent registered professional engineer
- Closure certification
- Conditions that will be achieved when closure is complete

3.1 Health and Safety

Prior to conducting any fieldwork for the implementation of this Closure Plan, a site-specific Health and Safety Plan (HASP) will be prepared in accordance with 29 CFR 1910.120. The HASP will describe the health and safety requirements, responsibilities, and training requirement that will apply to personnel implementing the Closure Plan. It will also describe the potential hazards present during field work, emergency response procedures, the minimum personal protective control measures, establishment of work zones, confined space entry procedures, and decontamination procedures. The HASP will also address the requirements for ambient air monitoring by specifying the PID/FID levels at which respirators will be donned. The HASP will be made available for review by appropriate agencies.

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3.2 Removal of waste and waste residues

Emerald will begin closure activities by removing all dangerous waste inventory in a sequenced approach. Any dangerous waste that can be recycled using on-site distillation units (glycol distillation, high boiler distillation, and thin film evaporator) will be processed whenever possible to reclaim re-useable product and reduce the total amount of waste for off-site disposal. Recycling will be conducted as outlined in Section D of this Permit application.

If dangerous waste is considered recyclable, but cannot be recycled on-site, a third party solvent and/or antifreeze recycler will be used whenever possible. Emerald will ensure that all remaining dangerous waste on-site has an approved profile with a permitted TSDF. Profiles will then be created for any dangerous waste that is not currently profiled. Antifreeze and solvents that are not recycled in on-site units will be transferred to tanker trucks or railcars for outbound shipment and disposal. Dangerous waste which is destined for fuel blending, including containerized high Btu waste streams, still bottoms remaining in the distillation systems and other high Btu tank residues, will be transferred to rail cars for outbound shipment and disposal. Poisons and corrosives will remain in their containers until shipment to an appropriately permitted third-party TSDF. Any other non-pumpable solids, including the dust generated from scarification of containment surfaces, will be transferred to drums or cubic yard boxes and shipped by truck for outbound shipment and disposal. All outbound shipments will be in accordance with the appropriate DOT specifications. The general sequence for removal of waste inventory will be as follows:

- Distill all recyclable waste streams
- Remove residuals from the applicable tanks and distillation systems
- Fuel blend all waste streams with sufficient Btu for energy recovery
- Designate waste streams in accordance with WAC 173-303-070
- Prepare profiles for third-party disposal of bulk and containerized waste streams as outlined in Section C of this Permit application, Waste Analysis Plan.
- Prepare manifests for hazardous waste shipment
- Transport product and residual wastes off-site

All rinse water generated from decontamination activities will be treated for discharge to the POTW if it can be treated to the limitations of the industrial wastewater discharge permit. Rinse water from the decontamination of the glycol distillation unit cannot be effectively treated to discharge limits and will be shipped off-site to a permitted third-party disposal facility.

Although Emerald plans to treat dangerous waste and rinse water onsite with existing equipment when that is possible, in accordance with WAC 173-303-620(3)(a) cost estimating assumes the maximum dangerous waste inventory and rinse water will be transported offsite and treated by a third party.

3.3 System and containment inspection prior to decontamination

Following removal of all residues from processing units, storage units, and equipment (the system), Emerald will visually inspect the system and containment to identify and record cracks and other openings through which waste, debris, or decontamination media such as rinsate or wash water could be released. If cracks or other openings are located in the containment, Emerald will evaluate these cracks or openings to determine if releases or potential releases of dangerous waste may have occurred at or from the closing unit. . The record and evaluation of releases and potential releases will be included in a revised sampling and analysis plan submitted to Ecology when Emerald sends Ecology written notification of intent to close at least 45 days before beginning final closure. Additional sampling due to cracks or other openings in containment will be performed if requested by Ecology.

Emerald will maintain a record of the location and dimensions of any cracks or openings in containment as well as any cracks or other openings in the system identified during the system and containment evaluation. Any other potential spill or release items such as staining or other indication of spills or releases will also be noted. This information will be used by Emerald and by the independent, qualified, registered professional engineer to determine if there is a need for further soil sampling and analysis during closure. Emerald will include this information on cracks or openings and these additional samples in the Sampling and Analysis plan subject to Ecology review and approval at the time of closure (section 3.7). Records of determination for additional sampling locations will be maintained in Emerald's operating record.

Once the containment inspection and, if necessary, investigation, is complete, Emerald will seal or repair all cracks or other openings in the system or containment. This will prevent releases prior to and during decontamination.

3.4 Decontamination of the system and containment areas

The independent qualified registered professional engineer retained by Emerald to assist with closure certification will be present during decontamination activities described below to confirm, by visual inspection, decontamination of surfaces. Test results will confirm the engineer's visual observations.

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3.4.1 Decontamination of Concrete Secondary Containment Structures

Concrete secondary containment structures are subject to debris standard closure, in which the contaminated layer of debris is removed using an Ecology-approved physical extraction method. This results in a "clean debris surface," defined by US EPA as a surface that, "when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be presented provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5 percent of each square inch of surface area." (40 CFR § 268.45 Table 1, Footnote 3).

All concrete secondary containment structures will be decontaminated in the same manner. Equipment and/or removable objects will be removed, and the areas will be swept to clear away loose debris. Each secondary containment structure will then be decontaminated. Decontamination will be accomplished using physical extraction technology, which will include either abrasive blasting or scarification, or a combination of the two. The process will result in removal of at least 0.6 centimeters of surface. All debris generated during decontamination will be swept away, then transferred to cubic yard boxes for testing and waste characterization.

For characterization purposes, the debris generated from decontamination activities will be sampled and tested for TCLP volatiles (SW-846 Methods 1311 and 8260), TCLP semi-volatiles (SW-846 Methods 1311 and 8270), and TCLP metals (SW-846 Methods 1311 and 6010) to determine applicable waste codes prior to disposal. Additional analyses will be added if waste acceptance records indicate acceptance of waste streams with constituents that are not included in these analyte lists. One representative sample will be obtained for each cubic yard box of debris accumulated during decontamination activities. Following receipt of analytical results, cubic yard boxes will be relabeled as necessary, then profiled and transported for disposal at a permitted third-party disposal facility.

3.4.2 Decontamination of Tanks, Piping, and Ancillary Equipment

Tanks and piping will be decontaminated using an Ecology approved combination of physical and chemical extraction method resulting in a "clean debris surface." First, tank, piping, and equipment contents will be physically removed. For fuel blending equipment, this may require an initial "chipping away" of solids that have accumulated on equipment such as the shredder and dispersion unit. Once equipment is cleared of all contents, then the contaminated surfaces will be decontaminated.

Decontamination for the tanks, piping, and ancillary equipment related to fuel blending, will be conducted using liquid phase solvent extraction. Recycled solvent that is available on-site, and is also capable of dissolving the contamination remaining in the fuel blend tanks, piping, and equipment, will be used. All solvent from decontamination activities will be collected and containerized for proper characterization and disposal. Solvent generated from this decontamination activity will be sampled and tested for flashpoint (ASTM Method D-93), TCLP volatiles (SW-846 Methods 1311 and 8260), TCLP semi-volatiles (SW-846 Methods 1311 and 8270), and TCLP metals (SW-846 Methods 1311 and 6010) to determine applicable waste codes prior to disposal. Additional analyses will be added if waste acceptance records indicate other waste streams whose constituents are not included in these analyte lists have been managed in tanks on-site.

For all other tanks, piping, and ancillary equipment (thin film evaporator, high boiler distillation, and glycol recycling), the interior surfaces of each tank will be washed using a high pressure water and detergent wash. Piping and other equipment will be washed using high pressure water and detergent to the extent practicable. A hot water pressure washer, detergent, and water will be used. All wash water from decontamination activities will be collected and containerized with other decontamination wash waters onsite. Washwater from tank and equipment washing will be treated through carbon per the Emerald industrial wastewater discharge permit, then discharged to the POTW.

If the clean debris surface standard is not met initially, wash cycles will be repeated until the standard is met. If it appears the clean debris surface standard will not be met, Emerald will dispose of the tank system as hazardous debris.

All tank systems will be removed from the facility at closure and either sold for reuse, or properly disposed of as either non-hazardous or hazardous debris.

3.4.3 Decontamination of Concrete Surfaces, Roadways, and Sumps

Concrete surfaces and sumps are subject to clean closure, in which the contaminated debris is removed using an Ecology-approved physical and chemical extraction method resulting in a "clean debris surface." Closure of all concrete surfaces is outlined in Section 3.3.1, above.

All sumps will be treated in the same manner as the concrete containment structures. Equipment and/or removable objects will be removed, and the areas will be swept to clear away loose debris. Each secondary containment structure will then be decontaminated. Decontamination will consist of removal of at least 0.6 centimeters of

surface using physical extraction technology which will include either abrasive blasting or scarification, or a combination of the two. All debris generated during scarification will be swept away, then transferred to a cubic yard boxes (the same boxes holding the debris from the concrete secondary containment decontamination) for testing and waste characterization.

For characterization purposes, the debris generated from decontamination activities will be sampled and tested for TCLP volatiles (SW-846 Methods 1311 and 8260), TCLP semi-volatiles (SW-846 Methods 1311 and 8270), and TCLP metals (SW-846 Methods 1311 and 6010) to determine applicable waste codes prior to disposal. If the debris does not designate for RCRA waste codes, the TCLP results will be evaluated by Emerald to determine if more testing is necessary to ensure proper management of the debris. Other parameters may be added if dangerous waste toxicity data should be obtained, or if waste acceptance records indicate acceptance of other waste streams with constituents that are not included in these analyte lists.

One representative sample will be obtained for each cubic yard box of debris accumulated during decontamination activities. Following receipt of analytical results, cubic yard boxes will be relabeled as necessary, then profiled and transported for disposal at a permitted third-party disposal facility.

3.5 Identifying and Managing Contaminated Environmental Media

All storage, recycling and fuel blending activities have been conducted within containment since operation of this facility was initiated by SolPro. Since that time, Emerald has applied new layers of impervious coating to keep dangerous waste contamination from adhering to the concrete containment surface. Any contamination of environmental media is expected to be minimal. However, cracks or gaps in need of repair present a risk of contamination to soil, and ultimately, to groundwater. Areas in containment where a crack or gap appears to have penetrated the concrete containment systems are not present at this time. This statement is supported by results of routine containment inspections, which have identified only chips in containment that will be repaired during the next dry season. Sampling and analysis of any cracks or gaps identified during the System and Containment Inspection required under this Closure Plan will be addressed as necessary during the System and Containment Inspection, in the updated sampling and analysis plan submitted to Ecology at closure notification, or as requested by Ecology.

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3.6 Confirming Clean Closure

WAC 173-303-610(3)(a)(v), (5)

For the dangerous waste management units at the Emerald facility, clean closure will be achieved by meeting the "clean debris surface" decontamination performance standard. A "clean debris surface" is defined by the EPA as a surface that, "when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be presented provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5 percent of each square inch of surface area." (40 CFR § 268.45 Table 1, Footnote 3).

Treatment to a clean debris surface will be accomplished by first removing waste residues, and second by decontaminating the concrete secondary containment areas, tanks and tank systems, concrete surfaces, roadways, and sumps. The decontamination will be conducted using a combination of Ecology approved physical and/or chemical extraction technologies of abrasive blasting, scarification, high pressure wash, liquid phase solvent extraction, and detergent wash (see also "Decontamination of the System and Containment Areas"). Through these methods, the contaminated layer of debris will therefore be removed using an Ecology approved physical extraction method resulting in a "clean debris surface".

In addition to meeting the "clean debris surface" standards, clean closure of the facility will be demonstrated by sampling and analysis of the environmental media potentially affected by facility operations. This will be accomplished by using focused (bias) and random sampling.

Focused sampling will be conducted adjacent to containment sumps, to the extent practical, in all dangerous waste management areas.

Other focused sampling will be conducted in the vicinity of cracks and gaps identified in containment surfaces at the time of closure. The additional locations based on cracks and gaps will be identified in the Sampling and Analysis Plan that will be submitted upon Closure notification. Currently, there are no dangerous waste management areas with identified cracks and gaps. Locations of proposed focused sampling (16 samples) are identified in Figure I-3.

In addition to bias sampling, Emerald will conduct random soil sampling beneath every separate waste management area at a sampling density of one sample per 3,000 square feet.

Table I-8
Random and Bias Sampling Frequencies

Secondary Containment Area	Area (ft^2)	Estimated number of random samples (1/3000 ft^2)	Estimated number of bias samples
Load/Unload Area 1	834	1	1
Load/Unload Area 2	575	1	1
Production Pad 1	990	1	1
Production Pad 2	825	1	1
Production Pad 3	987	1	1
Production Pad 4	2,260	1	1
Dangerous Waste Container Area	6,887	3	1
Process Area 1	1,200	1	1
Process Area 2	1,142	1	1
Tank Area 1	1,131	1	1
Tank Area 2	566	1	1
Tank Area 3	420	1	1
Railcar Area	1,259	1	1
Railcar Supplemental Containment Area	1,520	1	1
Glycol Recycling Area	2,899	1	1
Loading Dock	2,341	1	1
Total Soil Samples		18	16

An independent qualified registered professional engineer will be available to inspect and document the completion of decontamination and sampling of the concrete secondary containment structures, process and storage tanks, and clean debris surfaces. Observations and photos taken during the inspection will be provided to confirm that a clean debris surface has been achieved.

3.7 Sampling and Analysis Plan and Constituents to be Analyzed

The object of this Sampling and Analysis Plan is to verify that all contamination has been removed during decontamination activities. A revised Sampling and Analysis Plan will be submitted to Ecology when Emerald notifies Ecology of its intent to close at least 45 day before beginning closure. Parameters have been selected based on the potential for their presence in the collected environmental media. Unless otherwise indicated, samples will be grab. Sampling will be conducted to ensure any remaining contamination is identified (i.e., all visibly stained or discolored areas will be sampled if applicable).

Analytical parameters have been selected based on the constituents that are known to have been present in glycol, recyclable solvent, fuel blend, and storage only waste streams managed at the facility. Additional analyses will be added if waste acceptance records indicate acceptance of other waste streams with constituents that are not included in these analyte lists. The independent qualified registered professional engineer will oversee all Sampling and Analysis Plan activities to verify they are conducted as outlined in this Closure Plan.

3.7.1 Methodology

Subsurface soil samples (see Figure I-3), will be collected after decontamination of the containment areas has been completed. Subsurface soils samples will be collected in all dangerous waste management areas.

Subsurface soil samples will be collected by drilling through the concrete surface. Samples will be collected at one to six inches below the concrete surface, with volatiles samples collected and prepared according to EPA Method 5053A. Visible contamination, which is not expected due to Emerald's documented containment integrity, will result in collection of samples of increasing depth, at increments of six inches, until contamination is no longer visible. Each six inch increment would be collected in a separate sample container, and analyzed.

Following collection, the subsurface soil samples from all dangerous waste management areas with the exception of the Glycol Recycling System area will be analyzed for volatile and semi-volatile organics (SW-846 Methods 8260 and 8270) and metals (SW-846 Methods 6010). . The samples taken from the glycol processing areas will be analyzed for glycol (ASTM D-2982), volatiles (SW-846 Method 8260) and metals (SW-846 Method 6010). TPH analysis (NWTPH) will be performed on samples collected from the northeast perimeters of the Glycol Recycling and Dangerous Waste Container areas, and at a frequency of every fifth random sample collected as identified in Table I-8. Additional parameters may be added if there is evidence of spills of other contaminants in dangerous waste management areas, or if waste acceptance records indicate that waste streams managed in the area contained constituents that would not be identified in these methods. The subsurface soil samples will be collected in sufficient volume to achieve the required detection limits (sufficient boring diameter will be needed).

Subsurface soil samples will be labeled with a unique number that identifies the location of collection (i.e., PP1-1, PA1-3, etc.). Chalk or paint will be used to circle the area sampled and mark the area sampled with the corresponding sample identity. Results from this testing will be reviewed to ensure that clean closure has been achieved. If any

contamination is greater than the applicable MTCA limit for unrestricted site use for soil, Emerald will consult with Ecology regarding further clean-up measures.

Remaining samples not consumed during analysis will be composited for disposal purposes. Results from the subsurface soil borings analysis outlined above will be used for characterization. All data from all sample analyses will be provided with the final closure report.

3.7.2 Sample Handling

Samples will be collected and handled by personnel familiar with standard hazardous waste sampling and collection procedures and will be collected and managed under chain-of-custody procedures. All sampling and sample handling will be conducted while wearing fresh disposable nitrile gloves. Disposable sampling equipment will be properly disposed of after their dedicated use.

Samples will be collected in "clean certified" containers supplied by the analytical laboratory and sealed with Teflon-lined lids. Labels will be affixed to sample containers and contain the following information:

- Site name
- Corresponding sample identification number
- Collection date and time
- Requested sampling analysis
- Sampler's initials

Labeled samples will be immediately placed in ice chests and appropriately preserved with re-sealable plastic bags full of ice. The chain-of-custody form will be filled out and placed with the samples in a re-sealable plastic bag. Upon completion of field activities, samples will be picked up by a courier and delivered to the analytical laboratory.

Split samples may be obtained and provided if requested by Ecology.

3.7.3 Constituents to Be Analyzed

Samples will be submitted to a Washington State accredited laboratory for analysis. Analytical parameters will include those which will identify the presence of any compounds known to be typically present in glycol, recyclable solvents, and fuel blend waste streams managed by Emerald. Soil analyses will consist of volatile organics (SW-846 Method 8260), semi-volatile organics (SW-846 Method 8270), and metals ((SW-846 and 6010) for samples from areas managing solvents and other high Btu waste streams.

Soil analyses for samples connected with the Glycol Recycling area will consist of metals (SW-846 Method 6010), glycol (ASTM D-2982), and volatiles (SW-846 Method 8260). TPH analysis (NWTPH) will be performed on soil samples collected from the northeast perimeters of the Glycol Recycling and Dangerous Waste Container areas, and at a frequency of every fifth random sample collected as identified in Table I-8. For disposal purposes, sample analyses will also include TCLP metals (SW-846 Methods 1311 and 6010) and appropriate organic analyses. Equivalent methods may be used if approved by Ecology in a final Sampling and Analysis Plan. These methods will have sufficiently low practical quantitation limits to determine compliance with clean closure standards and disposal requirements. Quality assurance and quality control procedures will be those outlined for the SW-846 methods used. All data will be provided to Ecology in the final summary report.

3.7.4 Revisions to the Sampling and Analysis Plan and Constituents to Be Analyzed

Revisions to this Sampling and Analysis Plan may be necessary based on changes in site operations, or unexpected results during closure activities. If changes in site operations occur that will impact the Sampling and Analysis Plan, Emerald will submit a revised Sampling and Analysis Plan within 90 days of completion of the site operation change. A revised sampling and analysis plan will be submitted to Ecology when Emerald sends Ecology written notification of intent to close at least 45 days before beginning final closure.

3.8 Role of the Independent Qualified Registered Professional Engineer

An independent qualified registered professional engineer (engineer) will be retained by Emerald to become familiar with Emerald's closure activities. The engineer will be responsible for observing field activities and reviewing records. At a minimum, this will include field observations and a review of records of the following activities:

- Removal of contaminated soil, waste (and removal of any unit components or other materials) and disposition of waste (and other materials removed) to ensure the removal was complete and materials were properly disposed;
- Decontamination procedures and results to ensure that the closure plan for decontamination was followed and the clean closure standard for decontamination was achieved – this will include inspecting metal tanks and concrete containment system after decontamination to confirm that a "clean debris surface" and other decontamination performance standards are achieved.
- Management of decontamination residuals to ensure management was properly carried-out.
- Sampling procedures and results.

- Locations of sampling to ensure locations were as specified in the sampling and analysis plan.
- Sample labeling and handling, including chain-of-custody procedures.

The engineer will record his/her observations and review of records in a written report. Emerald will place the engineer's report in their operating record.

3.9 Certification of Clean Closure

WAC 173-303-610(6)

Within 60 days of closure of the dangerous waste management units, Emerald will submit to Ecology, by registered mail, certification that the unit has been closed in accordance with this closure plan. The certification will be signed by Emerald's owner who will certify the following:

> *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing of violations.*

The closure certification also will be signed and stamped by an independent qualified registered professional engineer who is familiar with Emerald's closure activities.

Emerald will submit the following information to support its closure certification:

- All field notes and photographs related to closure activities, including the results of the inspection of the unit and containment system for cracks and other openings prior to decontamination.
- A description of any minor deviations from the approved closure plan and justification for these deviations.
- Documentation of the removal and final disposition of all dangerous wastes and dangerous waste residues, including contaminated media, debris, and all treatment residuals.
- Documentation that decontamination procedures were followed and those decontamination standards were achieved.

- All laboratory and/or field data, including sampling procedures, sampling locations, quality assurance/quality control samples, and chain of custody procedures for all samples and measurements, including samples and measurements taken to determine background conditions and/or determine or confirm clean closure.
- The engineer's report referenced in section 3.8 which identifies and describes observations made and data reviewed by the independent registered professional engineer
- Analytical results of samples taken to determine and confirm clean closure.
- A description of what the unit area looks like at completion of closure, including a description of what parts of the former unit, if any will remain after closure.

3.10 Conditions That Will Be Achieved When Closure is Complete

Emerald plans to completely decontaminate all recycling and dangerous waste management units and concrete containment structures. When closure is complete, all units and structures will remain on-site for potential future use in other activities.

4.0 Closure Schedule and Timeframe

WAC 173-303-610(3)(a)(vii) and (4)

4.1 Closure Schedule

Written notification of intent to close will be sent to Ecology at least 45 days before beginning final closure of the dangerous waste management units. A revised sampling and analysis plan addressing releases and potential releases of hazardous substances will be submitted to Ecology for review and approval when Emerald sends Ecology written notification of intent to close. Waste removal will be completed within 90 days. All remaining activities, including decontamination of equipment and containment, sampling and analysis for clean closure demonstration, and removal of waste generated during decontamination and sampling activities, will be completed within the following 90 days. Emerald will submit closure certification to Ecology within 60 days following completion of closure activities at each closing unit and/or completion of final facility closure. Should Emerald need additional time to complete any part of closure activities, an extension request will be submitted to Ecology at least 30 days prior to the applicable expiration date according to WAC 173-303-610(4)(c). The extension request would also demonstrate that all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, have been and will be taken.

5.0 Cost of Closure

WAC 173-806(4)(a)(xv), 620(3)

5.1 Closure Cost Estimate

The closure cost estimate was developed in accordance with WAC 173-303-620(3). The following assumptions were used in development:

- A third party will be used for conducting all closure activities.
- The maximum dangerous waste volume will be present on site and managed during closure.
- Costs will be incurred for management of wastes handled during closure.
- Closure certification activities will be conducted by an independent qualified registered professional engineer registered in Washington State and a certification that closure has been done in accordance with the approved closure plan will be submitted to Ecology as required in WAC 173-303-610(6).

The closure cost estimate will be adjusted annually for inflation as specified in WAC 173-303-620(3)(c)(i) and (ii). Costs for closure labor, equipment, and analytical services are based on currently available rates. At the time of implementation of this Closure Plan, Emerald reserves the option to use any other appropriately-permitted facility for disposal or recycling of wastes.

The cost estimate for closure of the management units at Emerald is included for reference, along with a detailed breakdown of the cost estimates.

5.2 Financial Assurance for Closure

WAC 173-806(4)(a)(xv), 620(4), (10)

Emerald will continue to meet financial assurance requirements for closure as outlined in WAC 173-303-620(4) and (10). Currently, Emerald meets this requirement through an irrevocable letter of credit. The irrevocable letter of credit covers the cost of closure identified in the closure cost estimate. As the closure plan is adjusted for inflation purposes, the irrevocable letter of credit will also be adjusted accordingly.

Changes to the financial assurance mechanism must be approved by Ecology as specified in WAC 173-303-620(4).

WAC 173-806(4)(a)(xv), 620(4), (10)

Emerald will meet financial assurance requirements for closure outlined in WAC 173-303-620(4) and (10) through continual maintenance of an irrevocable letter of credit. The irrevocable letter of credit will cover the cost of closure identified in the closure cost estimate. As the closure plan is adjusted for inflation purposes, the irrevocable letter of credit will also be adjusted accordingly.

5.3 Financial Assurance for Liability

WAC 173-806(4)(a)(xvii), 620(8)

Emerald will meet the financial assurance requirements for liability outlined in WAC 173-303-620(8) through liability insurance (see Appendix I).